

verse swollen ridge. The tenth to twelfth segments inclusive are dull green, mottled with brown spots, and on the dorsum of the eleventh segment are two brown spots. The body is bright green, with the junctions of the segments yellow. Length 65 mm. Moulded June 15th.

*Fully-grown Larva.*—The body is now dull dirty green instead of bright green, and mottled with greenish ochreous. The head is comparatively small, and the first segment is about equal the width, the remaining segments gradually increasing in size. The thoracic feet have the bases considerably swollen and ringed with ochraceous. The pair of abdominal and anal legs are chocolate brown. Over the body are scattered irregularly small, elevated, pale yellowish spots, especially on the last three segments, which are conspicuously mottled. The cervical shield is dirty chocolate brown; on the second to tenth segments inclusive, are four minute black tuberculate spots; the fourth and fifth segments have an additional pair of spots. The transverse ridge on the fifth is very prominent, as is also the one on the underside of the sixth segment and the one on the eighth segment, and the two black tuberculate spots on the dorsum of the eleventh segment. Underside of body same as above, except the last three segments pale whitish-green. Anal plates tinged with lilac. Length 110 mm.

When fully fed the larva spins a loose thin double cocoon between leaves. The cocoon is an ovate elongated whitish web, and is open on each end. The pupa is pinkish white, roughened on all the segments, but the spaces between are semitransparent and yellowish. The pupa is also covered with a mealy substance. Length, 35 mm.; cocoon, 40 mm.

*Food-Plants:* Elm, Maple, Sweet gum, etc.

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## NOTE ON HYPERCHIRIA IO VAR. LILITH.

By WM. BEUTENMULLER.

About three years ago, early in April, I received two half-grown larvæ of *H. lilith*, from Mrs. A. T. Slosson, who obtained them in Florida from eggs laid by this form. The larvæ were fed on dried bay leaves, softened in hot water, it being too early in the season to obtain fresh food. I offered them this food and also a species of *Myrica* which I brought with me from Florida in 1887. The larvæ only nibbled these leaves, and as a consequence they just about managed to keep alive, and their growth was very much retarded. After existing

a little over a week on "hard-tack," they were transferred to fresh leaves of *Rhododendron*, which was then beginning to bud. This food they ate with great relish, and the change was very striking. They began to grow rapidly and became very active. After passing two more moults they finally spun their cocoons, from which emerged, about one week later a perfect male moth. The other pupa did not hatch. It was at one time supposed that *H. lilith* was a valid species. I have carefully compared the larva with that of the type form, *H. io*, but could not detect the slightest difference, either in shape, coloration or markings. Mrs. Slosson, however, informs me that the young larva of *lilith* is much paler in color than that of *io*.

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### THE EARTHWORM AS A TREE-PLANTER.

By F. M. WEBSTER.

The habit of drawing the leaves and stems of various plants into their burrows has been frequently noticed of these worms, and Darwin, in his classic work, has cited many instances of this character. I have more than once surprised them tugging at a leaf of grass that was attached to the stem, the latter sometimes being bent to the ground by their exertions. This spring a small patch of sward had been spaded up with a view of planting flowers thereon, but the ground lay for sometime untouched, and was observed to be quite thickly populated by earthworms, and the openings of their vertical homes were very numerous after a rain had fallen and formed a slight crust over the surface of the ground. About this time a maple tree close by began dropping its seeds and quite a number fell on the still undisturbed flower bed. In a short time many of these seeds assumed a vertical position, while in other places a number would be grouped together, obliquely, forming a sort of rosette. A little patience and careful watching showed that the maple seeds had been drawn into the homes of these creatures, and, as many of the seeds afterwards germinated and grew, if left undisturbed, they might have made a small forest, the planters thereof having worked without hands, and with little knowledge of their influence upon the vegetable that they had only attempted to secure as a morsel of food.